Chapter Three

Uniform Street Tree Planting Map

Management Tool
Current Forest Distribution
Future Forest Management

City of Carlsbad
Community Forest Management Plan

Chapter 3 - Uniform Street Tree Planting Map

"Decision-making is much easier when tree…information is graphically available."

The Uniform Street Tree Planting Map (USTPM) includes approximated locations of trees within the STAD. A copy of the USTPM is available at the office of the Parks Division of Public Works, due to its volume, it is not included in this CFMP. Also included on the USTPM are locations of valid tree planting sites. The City maintains a database of its trees that includes species, size, address, and other attribute information. This tree information was last collected in 1993 and is therefore becoming less useful with time. Many trees have been removed, planted, or have changed in size or condition since the original inventory. The City must update this database by conducting a street tree inventory within the next two years, as most tree information within the database is currently over eight years old.

The recommended inventory will provide the means with which to make the link between the digital tree locations and updated attribute information. The importance of establishing this link is paramount. With this link in place, trees can be visually presented in a geographical information system (GIS) at their precise location and for any attribute they posses. For example, guidelines for species distribution, size, height, and condition, amongst others, can be querried and the resulting information graphically presented in a city base map. Decision-making is much easier when tree attribute distribution information is graphically available.

The USTPM displays the locations of City-owned trees within the STAD and the vacant tree spaces that should be planted to meet maximum stocking goals. Tree locations are generally located, to the parcel scale and were generated by the City's GIS department. They are not precise tree locations and groupings of tree types have been completed in an effort to simplify graphical presentations. Following a complete inventory, the data will be easily manipulated by City GIS operators who will be able to provide high quality, accurate maps that display attribute information such as those presented in Table 2.

Table 2. Uniform Street Tree Planting Map potential capabilities*

Function	Output	Advantages
Query trees by species	Map depicting species distribution throughout the Assessment District (STAD)	Easily determine where species are occurring, allows creating or enhancing species diversity, or unifying neighborhoods with similar species, aids species selection for reforestation.
Query trees by planting space	Map depicting small, medium, and large planting sites throughout the STAD	Easily determine what size tree from the approved street tree species list should go in which planting spaces before field crews begin work.
Query trees by condition	Map depicting trees by overall condition	Allows managers to focus attention on trees that may present higher hazard potential.
Query trees by user-defined criteria	Map depicting trees by user-defined criteria	Allows managers to proactively monitor and manage the City's trees to reduce conflict, prevent damage, obtain maximum benefits.

**Capabilities refer to future capabilities following a tree inventory*

Tree Distribution

Tree species are distributed throughout the City STAD to varying levels of uniformity and diversity. The 1993 information based USTPM reveals a great deal of variation amongst neighborhoods, along streets, and in sections of the City. Some areas, such as along Jefferson Street, between its intersection with Buena Vista and Las Flores Drive, displays rich species diversity with ten different species intermixed in the parkways.

Other areas include large numbers of one species, such as Italian cypress along Carlsbad Village Drive, or the magnolias along Highland Drive, with no or few additional species. These areas are intentionally planted to only a few species to present a unifying theme for a particular neighborhood. Themes are supported by the City as long as diversity is maintained on a larger scale. As such, the following section discusses tree-planting themes.

Tree Themes

Tree themes are evident throughout the City, although many of them are becoming less and less pure as old age has caused vacancies that have been filled with non-conforming species. Monroe Street includes one such theme. Four different species are planted along Monroe, and they are all of the genus *Eucalyptus*. Eucalyptus are a precarious species due to the many insect pests that attack them and often times cause their loss. Maintenance of the theme along Monroe can be accomplished with the addition of certain eucalyptus species and species resembling eucalyptus such as Sydney blue gum or Brisbane box in appropriately sized planting spaces.

Basswood Avenue between its intersection with Valley Street and Monroe Street includes three different palm species. The consistency of the palms provides a unifying theme. The diversity introduced by the varying species of palms also provides some protection from catastrophic tree mortality associated with insects or disease specific to a particular palm species.

A similar theme street is along Pine Avenue. The six species that are present on this street are all large, spreading trees with Canarly island, Torrey, and allepo pines intermingled with sugar and blue gums, and sycamore. As declining condition or mortality requires that trees are removed, the City may decide to replant various pine trees only on Pine Street for consistency and theme purposes.

Themes should continue throughout the City's neighborhoods and streets. However, there are many ways to provide themes, some of which have been discussed herein. Single species tree planting is not recommended on a large scale when themes can be perpetuated in more ecologically smart ways.

Vacant Planting Spaces

There are a large number of vacancies throughout the City STAD. The areas with the most prominent vacancies include:

- Carlsbad Village Drive between Monroe and Concord Streets
- Sevilla Way between Valencia and Cordobal Place

- Jefferson Street between Magnolia and Tamarack Avenues
- Camino Del Prado
- Linda Lane
- Lee Court

Areas including large percentages of vacant sites (according to 1993 data) will be the focus of planting efforts over the next several years. Arbor Day celebrations, grant matching funds, and other special projects should concentrate on planting the vacancies to help achieve the City's full stocking goals. All tree plantings should be from the approved species list and should be appropriate for the available space.